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APPLICATION NO	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO	CONFIRMATION NO
09/723,365	01/31/2001	Suman Khowala	8920-000005	3998

7590 02/13/2003

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EXAMINER

MARX, IRENE

ART UNIT	PAPER NUMBER
1651	

DATE MAILED: 02/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. <b>09/773,365</b>	Applicant(s) <b>Khowala</b>
	Examiner <b>Irene Marx</b>	Art Unit <b>1651</b>
		
<i>-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --</i>		
<b>Period for Reply</b>		
A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.		
<ul style="list-style-type: none"> <li>- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.</li> <li>- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.</li> <li>- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.</li> <li>- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).</li> <li>- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).</li> </ul>		
<b>Status</b>		
1) <input checked="" type="checkbox"/> Responsive to communication(s) filed on <u>Jan 13, 2003</u>		
2a) <input type="checkbox"/> This action is <b>FINAL</b> .      2b) <input checked="" type="checkbox"/> This action is non-final.		
3) <input type="checkbox"/> Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11; 453 O.G. 213.		
<b>Disposition of Claims</b>		
4) <input checked="" type="checkbox"/> Claim(s) <u>3 and 6-12</u> is/are pending in the application.		
4a) Of the above, claim(s) _____ is/are withdrawn from consideration.		
5) <input type="checkbox"/> Claim(s) _____ is/are allowed.		
6) <input checked="" type="checkbox"/> Claim(s) <u>3 and 6-12</u> is/are rejected.		
7) <input type="checkbox"/> Claim(s) _____ is/are objected to.		
8) <input type="checkbox"/> Claims _____ are subject to restriction and/or election requirement.		
<b>Application Papers</b>		
9) <input type="checkbox"/> The specification is objected to by the Examiner.		
10) <input type="checkbox"/> The drawing(s) filed on _____ is/are a) <input type="checkbox"/> accepted or b) <input type="checkbox"/> objected to by the Examiner. <p style="margin-left: 20px;">Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).</p>		
11) <input type="checkbox"/> The proposed drawing correction filed on _____ is: a) <input type="checkbox"/> approved b) <input type="checkbox"/> disapproved by the Examiner. <p style="margin-left: 20px;">If approved, corrected drawings are required in reply to this Office action.</p>		
12) <input type="checkbox"/> The oath or declaration is objected to by the Examiner.		
<b>Priority under 35 U.S.C. §§ 119 and 120</b>		
13) <input type="checkbox"/> Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). <p style="margin-left: 20px;">a) <input type="checkbox"/> All b) <input type="checkbox"/> Some* c) <input type="checkbox"/> None of:</p> <ol style="list-style-type: none"> <li>1. <input type="checkbox"/> Certified copies of the priority documents have been received.</li> <li>2. <input type="checkbox"/> Certified copies of the priority documents have been received in Application No. _____.</li> <li>3. <input type="checkbox"/> Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).</li> </ol>		
<p style="margin-left: 20px;">*See the attached detailed Office action for a list of the certified copies not received.</p>		
14) <input type="checkbox"/> Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e). <p style="margin-left: 20px;">a) <input type="checkbox"/> The translation of the foreign language provisional application has been received.</p>		
15) <input type="checkbox"/> Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.		
<b>Attachment(s)</b>		
1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)		
4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____		
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)		
5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)		
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____		
6) <input type="checkbox"/> Other: _____		

A request for continued examination look under para No. 07-42-04, etc. to about 07-42-10 in custom and numbered. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/13/03 is acknowledged.

Claims 3 and 6-12 are being considered on the merits.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 3 and 6-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sengupta *et al.* (1990) taken with Kubicek *et al.*

The claims are directed to a process of producing cellobiase and other cellulolytic enzymes in the presence of a glycosylation inhibitor such as tunicamycin or 2-deoxy-D-glucose with *Termitomyces clypeatus*.

Sengupta *et al.* (1990) disclose a process of producing cellobiase and other cellulolytic enzymes under conventional conditions with *Termitomyces clypeatus* (See, e.g., page 310).

The reference differs from the invention as claimed in the presence of a glycosylation inhibitor in the process. However, Kubicek *et al.* disclose the production of cellobiase in the presence of the glycosylation inhibitors tunicamycin or 2-deoxy-D-glucose in a concentration of about 50 µg/ml in similar process of producing cellobiase using the fungus *Trichoderma reesei* (See, e.g., pages 700 and 701). In view of the similarity of the metabolic pathways involved in the biosynthesis of cellulolytic enzymes, including cellobiase, in fungi one of ordinary skill in the art would have had a reasonable expectation of success in obtaining a similar improvement in the

stability of the excreted cellobiase produced, at least when using 50 µg/ml tunicamycin or 2-deoxy-D-glucose in the process (See, e.g., Kubicek *et al.* page 398, col. 2). In addition, Sengupta *et al.* recognize that the cellobiase enzyme in *T. clypeatus* is excreted and is regulated by catabolic repression and is sensitive to glucose inhibition (See, e.g., pages 310 and 314, last paragraph, respectively).

It is noted that the amounts provided in the reference correspond more closely to the amounts provided in the instant specification at page 9 of 0.05-2 mg/ml which show favorable results for a specific strain of *T. clypeatus*, rather than 0.05-5% as claimed. It is noted, for example, that the cellobiase activity using 5 mg/ml 2-deoxy-D-glucose is a low 0.081 units/ml compared to the control of 1.044.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the claimed invention was made to modify the process of Sengupta *et al.* for producing cellobiase with *Termitomyces clypeatus* by adding a glycosylation inhibitors tunicamycin or 2-deoxy-D-glucose as taught by Kubicek *et al.* for the expected benefit of increasing the stability of the secreted cellobiase useful for the degradation of cellulose-containing agrowastes, for example.

Thus, the claimed invention as a whole was clearly prima facie obvious, especially in the absence of evidence to the contrary.

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Irene Marx whose telephone number is (703) 308-2922. The examiner can normally be reached on Monday through Friday from 6:30 AM to 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Wityshyn, can be reached on (703) 308-4743. The appropriate fax phone number for the organization where this application or proceeding is assigned is before final (703) 872-9306 and after final, (703) 872-9307.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Customer Service whose telephone number is (703) 308-0198 or the receptionist whose telephone number is (703) 308-1235.

*Irene Marx*  
IRENE MARX  
PRIMARY EXAMINER